



TEMS International is an independent provider of environmental management and compliance services to the global oil and gas industry. Our services are focused on managing and optimising drilling performance and drilling waste in real time, while ensuring an asset remains in environmental compliance. Ultimately, our experienced team aim to reduce drilling costs and ensure legislative compliance targets are met or exceeded.

- Location: **Gulf of Mexico**
- Project date: **November – December 2018**
- Drilling duration: **44 days**
- Total footage drilled: **15,673ft**
- Total estimated saving: **\$262,148**
- Estimated SBM savings: **1,487 barrels**
- Shaker screens repaired: **8**

OUTLINE

TEMS International supported an independent global exploration and production company during the drilling of a well in the Gulf of Mexico. The deepwater project commenced in November 2018 and continued for 44 days. During the project, TEMS International engineers oversaw more than 15,500ft of drilling.

TEMS International provided its drilling performance management and optimisation, and continuous environmental compliance legislation services during the project. Prior to the project commencing, TEMS International engineers conducted an extensive audit to identify potential issues regarding the containment of drilling fluids, diesel fuel and other hydrocarbons used in the daily operations onboard the rig. These observations were either resolved prior to and during drilling operations, depending on their seriousness, or recommendations made to implement improvements.

The overall aims of the project were to:

- Achieve governmental oil on wet cuttings (OOWC) limitations
- Optimise solids control equipment to deliver maximum solids removal with minimum liquid retention
- Reduce synthetic based mud surface consumption
- Reduce shaker screen consumption
- Minimise environmental impact

SERVICES DELIVERED

Drilling performance management and optimisation

A process approach to drilling performance management that adds value to the entire drilling process. The service aims to ensure more effective and efficient drilling – reducing drilling days – through optimised fluid management, effective solids control management with the overriding proviso of safety and environmental protection.

Continuous environmental compliance legislation

Leading guidance on environmental compliance, prior to and for the duration of a drilling campaign. The comprehensive technical services and environmental consultancy enable well planners to ensure permits are in place, and that drilling operations keep pace with, or exceed, the evolving compliance regulations of drilling locations.



OUTCOME

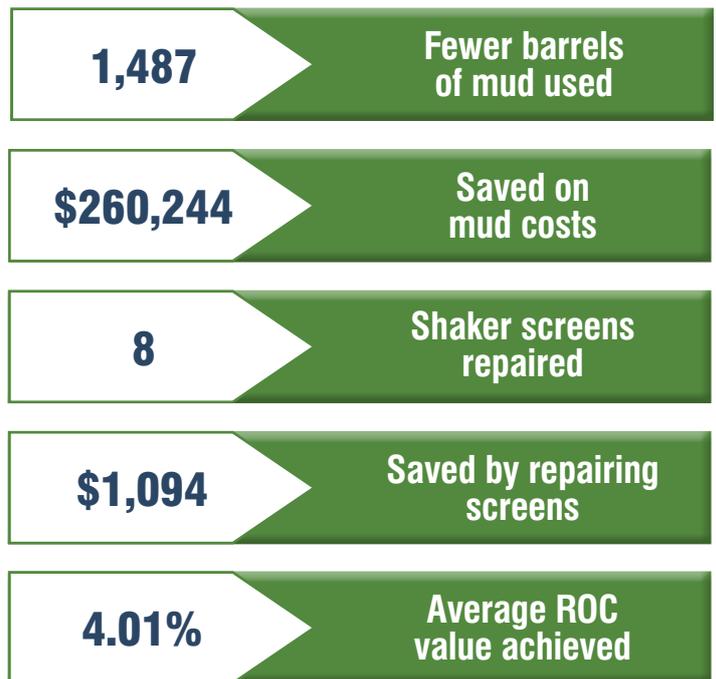
During the drilling campaign, TEMS International's involvement assisted in reducing synthetic-based mud consumption, ensuring environmental compliance with local regulations and helping reduce overall drilling costs. In excess of 1,450 fewer barrels of mud were required to drill the well against the target, resulting in savings of over \$250,000 on mud costs. Savings in surface mud consumption were achieved in all four sections drilled.

Over the 44 days of the drilling campaign, shaker screens were run for more than 1,800 hours. TEMS International engineers repaired eight screens during this time, enabling their reuse and saving \$1,904 against the cost of new screens.

In the Gulf of Mexico, the US Environmental Protection Agency (EPA) permitted retention on cuttings (ROC) discharge value for synthetic-based mud is 6.9%. TEMS International achieved an ROC rate of 4.01%, comfortably within the EPA regulations.

TEMS International engineers assisted the client in achieving its environmental aims while carrying out drilling operations in the Gulf of Mexico. Those focused on spill containment and prevention via the identification, and continual inspection, of potential sources of spillage, the introduction of policies for increased crew awareness and rig site procedural improvements.

Additional recommendations were made to further improve the environmental performance of the asset and potentially prolong the lifespan of loading hoses.



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